correlation between the presence of SV40 viral sequences and the pathological type of the tumor since 13 out of the 20 SV40 positive cases (65%) were of the sarcomatoid/mixed variants compared to 7 (35%) of the epithelioid variant (p.= 0.03). Similarly, there was a statistically significant correlation between the presence of SV40 viral sequences and a positive history of asbestos exposure (p. = 0.03). Univariate analysis showed a significant correlation between OS and stage (p= 0.03), performance status (p=0.04), p53 overexpression (p=0.05), asbestos exposure (p=0.002) and SV40 (p=0.001). Multivariate analysis showed that when SV40 and asbestos exposure were considered together, only combined positivity of both is an independent prognostic factor affecting the OS (p = 0.001).

Conclusion: SV40 and asbestos exposure are common in Egyptian MPM denoting a possible etiological role and a synergistic effect for both agents. Our results prove that combined positivity for SV40 and asbestos exposure is an independent prognostic factor in MPM having a detrimental effect on OS

P1-108 **Mesothelioma and Other Thoracic Malignancy Posters, Mon, Sept 3**

Clinical features of endotracheal / endobronchial metastases: analysis of 55 cases

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Objective: To discuss the clinical presentation, diagnosis and treatment of endotracheal/endobrocnchial metastases (EEM).

Methods: Retrospective and follow-up analyses were conducted of 55 cases of bronchoscopically confirmed EEM. Clinical staging, location in the tracheobronchial tree, the number of lesions, treatment and prognosis were analyzed.

Results: The most common neoplasms associated with EEM were esophageal carcinoma (50.9%) and gastric cancer (9.1%). Most EEM patients presented with cough, hemoptysis, dyspnea, chest pain and fever. Abnormal changes on chest X-ray were found in 83.6% cases, and CT imageological changes were found in all patients. There were 29/66 lesions in the trachea, and 37/66 in the bronchus, including 18 in the right bronchus and 19 in the left bronchus. Type I EEM accounted for 22/66 cases; Type II, 20/66 cases; Type III, 10/66 cases, and Type IV, 14/66 cases. The median survival time was 8.1 months. There was significant difference in survival time between Type IV EEM and the other three types.

Conclusion: EEM may occur in the trachea or in the bronchus. Flexible bronchoscopy is a valuable tool for the diagnosis of EEM. Although there are cases of long survival, the prognosis of EEM is generally poor.

P1-109 **Mesothelioma and Other Thoracic Malignancy Posters, Mon, Sept 3**

Genetic metabolic polymorphisms and risk of pleural mesothelioma

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Background: Malignant pleural mesothelioma (MPM) is a rare and aggressive cancer. Asbestos fibers exert their well-recognized causative effect on MPM through the direct or indirect generation of reactive oxygen and nitrogen species. Many genes that encode for xenobiotic and oxidative metabolism enzymes are polymorphic, resulting in possible individual differences in cancer risk. Two previous studies related the risk of MPM with few genetic polymorphisms of xenobiotic and oxidative metabolism enzymes, as assessed by PCR techniques, generating the hypothesis that genetic variation may have a role in individual susceptibility to MPM. An association study performed in a case-control setting including 90 MPM patients and 395 referent subjects is described. Thirtyfive single nucleotide polymorphisms (SNP) in 10 genes of phase I and 27 SNPs in 8 genes of phase II of the xenobiotic metabolism were explored in relation to the risk of MPM.

Methods: The polymorphisms were analyzed all at once for a given sample by a micro-array technique based on the arrayed-primer extension (APEX) principle.

Results: After adjusting for multiple comparisons according to the Wacholder method, a general lack of statistically significant association was evident, with the exceptions of CYP1B1 and NAT1. The homozygotes carrying the variant R48G within CYP1B1 were found at about four-fold increased risk of MPM respect to homozygotes wild type (OR=4.22, 95% CI 1.68-10.61, p=0.002). In addition, the ORs calculated for the diplotypes showed that there are haplotypes associated with the risk of MPM. The slow and intermediate acetylator phenotypes for NAT1 posed an increased risk of MPM respect to the fast acetylator genotype (OR=4.46, 95%CI 1.07-18.63 and OR=2.35, 95% CI 1.03-5.4, respectively).

Conclusions: The present study reinforces the hypothesis that the acetylator-phenotype plays a role in relation to the etiology of MPM and suggests CYP1B1 as a novel risk factor for MPM.

P1-110 **Mesothelioma and Other Thoracic Malignancy Posters, Mon, Sept 3**

The dosimetric effects of changes in thoracic cavity fluid levels during adjuvant hemithoracic intensity modulated radiotherapy following extrapleural pneumonectomy for mesotheliomas

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Background: Malignant pleural mesotheliomas are rare tumours involving the pleural lining of the lung, often associated with asbestosis. We offer aggressive tri-modality treatment in carefully selected patients, consisting of neoadjuvant chemotherapy (cisplatin and pemetrexed) followed by extrapleural pneumonectomy followed by adjuvant hemithoracic intensity modulated radiotherapy (IMRT). Usually the thoracic cavity (TC) becomes completely fluid filled after surgery and is stable throughout treatment. However, in some patients, the TC is partially filled at the beginning and the fluid levels may change during radiation. Clearly, increasing the density of the TC contents will tend to attenuate the dose delivered (and vice versa). However, the magnitude of these effects are not well understood. The aim of this study is to investigate the clinical significance of these dosimetric effects.

Methods: The patient was planned using the Inverse Planning module of the Pinnacle treatment planning system (version 7.6c). Appropri-

ate dose constraints are applied to the clinical target volume (CTV), planning target volume (PTV), contralateral lung, heart, spinal cord, esophagus, liver and kidneys. Beam geometry consisted of 8 non-overlapping coplanar beams (mixed 6/10 MV photons). The PTV was prescribed 50 Gy in 25 daily fractions over 5 weeks. Bolus was applied over the scar to ensure adequate skin dose. The plan was optimized in the partially filled TC case. A density override was applied to the TC to simulate the completely filled TC (1 g/cm^3) and completely empty (0 g/cm^3) cases, assuming identically treated plans (same monitor units). The doses to the regions of interest were compared.

Results: Comparing the empty, partially filled and full TC cases respectively, we find: mean CTV dose 53.4. 50.7 and 49.6 Gy, mean PTV dose 53.1, 50.4 and 49.4 Gy; mean contralateral lung dose 8.8, 8.4 and 8.3 Gy; mean heart dose 32.0, 28.4 and 28.5 Gy; max spinal canal dose 50.0, 48.9 and 47.3 Gy; max esophagus dose 56.5, 54.0 and 54.6 Gy; mean liver dose 20.6, 19.8 and 19.9 Gy; mean ipsilateral kidney dose 6.9, 7.1 and 7.1 Gy.

Conclusions: Dosimetric differences between partially filled and full TC are modest, usually within 1 Gy, and, thus, not likely to be of major clinically relevance. In general, the empty and full TC had slightly warmer and cooler doses, respectively, compared to the partially filled TC case but this was not universally true for all organs at risk. The empty TC had the largest dosimetric differences, sometimes exceeding 2 Gy, compared to the other cases and, thus, may warrant further clinical study and caution.

P1-111 Mesothelioma and Other Thoracic Malignancy Posters, Mon, Sept 3

Outcome of relatively benign tracheobronchial tumors treated with bronchoscopic therapy

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Background: Bronchoscopic intervention as initial treatment for relatively benign intraluminal lesions has been shown to potentially spare lung parenchyma without compromising long-term outcome, relative to surgical resection.

Aim: To evaluate outcome of bronchoscopic treatment for patients with lipoma, neurofibroma, hamartoma, chondroma, hemangioma, papilloma, granular cell myoblastoma and low-grade mucoepidermoid carcinoma involving the tracheobronchial tree.

Methods: Retrospective review of pathology and bronchoscopy databases between 1992 and 2006 was performed to identify patients with relatively benign airway tumors referred to our hospital for bronchoscopic intervention. Initial clinical work-up included high resolution computed tomography (HRCT) for tumor location and invasion. All patients underwent rigid bronchoscopy for diagnostic and therapeutic indications. Endobronchial electrosurgery followed by mechanical debulking of the intraluminal tumor. Restaging with bronchoscopy and HRCT were carried out 4-6 weeks after bronchoscopic intervention. Patients with extraluminal or residual tumor and distal lung atelectasis were advised for surgery.

Results: We identified 44 patients, 15 females with median age 54 yrs (range 18 -81), who were initially treated bronchoscopically:16 (chondro)hamartomas, 6 mucoepidermoid carcinomas, 6 granular cell myoblastomas, 4 lipomas, 3 papillomas, 3 adenomas, 2 neurofibromas, 1 hemangioma, 1 lymfangioma, 1 leiomyoma and 1 paraganglioma. Thirty-five patients (80%) were curatively treated by bronchoscopic treatment alone (80%). In the remaining nine patients, radical resection was performed. Median follow-up until March 2007 was 38 months (range: 4-152) and there were no complications observed in patients who underwent bronchoscopic treatment. There has been one patient with a recurrence of a hamartoma 20 weeks after bronchoscopic intervention; a segmentectomy was performed.

Conclusion: Bronchoscopic treatment of relatively benign intraluminal tumors in the treacheobronchial tree can be initiated and is a safe alternative for surgery, which can be performed if bronchoscopic treatment initially failed.

P1-112 Mesothelioma and Other Thoracic Malignancy Posters, Mon, Sept 3

Surgery for malignant pleural mesothelioma

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Background: Evaluate efficacy of diagnostic measures and surgery for malignant pleural mesothelioma (MPM) and analyse results of treatment.

Matherial and Methods: Form 1992-2005 yy. 138 patients (pts) underwent treatment for morphologicaly proved malignant pleural mesothelioma in Department of Thoracic Surgery and Oncology, Institute Oncology Vilnius University. 113 (81.9%) pts were operated, 25 (18.1%) pts underwent conservative treatment (radiation/chemotherapy). Before operation noninvasive diagnostic procedures were used: X-ray films 138 (100%) pts, X-ray films and chest CT 56 (40.5%) pts, chest CT 62 (44.9%) pts, chest CT/MRI 10 (7.2%) pts and chest ultrasound 10 (7.2%) pts. Invasive diagnostic procedures: VATS - 45 (32.6%) pts, pleural biopsy 82 (59.4%) pts, diagnostic (mini) thoracotomy 11 (7.9%) pts. Stage of the disease: I st. - 17 (12.3%) pts, II st.- 35 (25.3%) pts, III st. - 60 (43.4%) pts and stage IV - 26 (18.8%) pts. 53 pts after surgery were treated using radiation/chemotherapy.

Results: Operation for MPM: pleuropulmonectomy - 68 (60.1%) pts, extented pleuropulmonectomy with pericardium and diafragm resection - 12 (10.6%), parietal pleurectomy - 12 (10.6%), partial pleurectomy with pericardial resection - 11 (9.7%) pts, debulking - 10 (8.8%) pts. Morphology found: epitheliod - 48 (35.7%) pts, sarcomatosus - 53 (38.4%) pts and biphasic - 37 (26.8%) pts. Postoperative complications: bronchial fistulas - 6 (5.3%) pts, chylothorax - 7 (6.1%) pts, hemothorax - 11 (9.7%) pts and injury of simpatic ganglion - 2 (1.7%) pts. 4 (3.5%) pts dead after surgery. Median survival after surgery was 12,0±2 mo., after conservative treatment - 6,0±2 mo. Reccurence of the disease in surgical group ranges from 9.7-17.6% of pts, in conservative group no one pts lived three years.

Conclusions: 1. Surgery for MPM is confident, radical and sufficient method of treatment. 2. Nonradical resections and postoperative chemoradiation prolongs disease free survival and overall survival. 3. Postoperative complications was in 26 (23%) pts, 4 (3.5%) pts dead. 4. Median survival after surgery was 12,0±2 mo., after conservative treatment - 6,0±2 mo. Reccurence of the disease in surgical group ranges from 9.7-17.6% of pts, in concervative group 93%.